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EXAMINER	
HANOR, SERENA L	

ART UNIT	PAPER NUMBER
1793	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/592,007	OKUHARA, TOSHIO	
	Examiner	Art Unit	
	SERENA L. HANOR	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☒ Claim(s) *6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/07/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

Claim 6 is objected to because of the following informalities: the formula shows a y subscript but the description states an x subscript. Appropriate correction is required.

Claim Rejections - 35 USC § 112, 2nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "parts" in claim 2 is a relative term which renders the claim indefinite. The term "parts" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear how the content of the palladium content of the catalyst is measured, i.e. by weight or volume %.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

i. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ohtsuka et al. (EP 1 063 010 A1).

Ohtsuka et al. disclose a catalyst with the formula Pd/W_aZrO_x, wherein:

- Pd is a palladium-containing compound (p. 3 lines 29-42), which is present in an amount of 2-15 % relative to the carrier (p. 3 lines 40-42, *Applicants' claim 2*),
- a, a W/Zr molar ratio, is 0.01-5.0 (p. 3 lines 29-35, *Applicants' claim 2*), and
- x is determined by oxidization states (p. 3 lines 29-35, *Applicants' claim 1*).

The production of said catalyst comprises the following successive steps:

1. mixing a tungsten compound and a zirconium compound and heat-treating these compounds at 400-1,200°C (p. 4 lines 28-29, p. 12 lines 51-55, *Applicants' claim 7*) to produce a compound represented by the formula W_aZrO_x, wherein a is a W/Zr molar ratio and x is determined by oxidization states (p. 3 lines 29-35, *Applicants' claim 6*).

2. loading a palladium compound on the W_aZrO_y compound obtained in step 1 (p. 4 lines 44-45, p. 12 lines 56-58, *Applicants' claim 6*).

Ohtsuka et al. differs from the instant invention in that there is no reference to using the catalyst in a process for producing an oxygen-containing compound by reacting an olefin and oxygen. However, the preamble of claim 1 is not relevant to patentability. If the body of the claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See MPEP 2111.02 [R-3] II.

Ohtsuka et al. differ from the instant invention in that the amount of palladium supported on the tungsten-zirconia support overlaps and or lies within the range of the instant invention.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have selected** *an amount of palladium to be supported that fell in the range of the instant invention*, as per Applicant's claim 2, **because** a *prima facie* case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315

F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5].

Ohtsuka et al. differ from the instant invention in that the value for a overlaps and or lies within the range of the instant invention.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have selected** *the proper subscript a as per the instant invention*, as per Applicant's claim 2, **because** Ohtsuka discloses a catalyst with the same formula and a *prima facie* case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5]. Furthermore, "[t]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP 2112 [R-3] I.

Ohtsuka et al. differ from the instant invention in that the fact that x is determined by the oxidation states of W, Zr, and Pd is not explicitly disclosed.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have chosen** *an appropriate value for x as per the oxidation states of W, Zr, and Pd*,

as per Applicant's claim 1, **because** "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP 2112 [R-3] I.

ii. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kresge et al. (U.S. Patent No. 5,902,767)

Kresge et al. disclose a catalyst represented by the formula Pd/W_aZrO_x, wherein:

- Pd is a palladium-containing compound, which is present in an amount of 0.001-15 parts (col. 4 line 66-col. 5 line 4, col. 6 lines 14-24, *Applicants' claim 2*),
- a, a W/Zr molar ratio, is 0.01-5.0 (col. 3 lines 54-58, col. 9 lines 43-44, *Applicants' claim 2*), and
- x is determined by oxidization states (col. 4 lines 12-37, *Applicants' claim 1*).

The production of said catalyst comprises the following successive steps:

1. causing a tungsten compound and a zirconium compound to coexist and heat-treating these compounds at 400-1,200°C (col. 7 lines 58-65, col. 9 Example 1, *Applicants' claim 7*) to produce a compound represented by the formula W_aZrO_x, wherein:

    - a is a W/Zr molar ratio (col. 3 lines 54-58, col. 9 lines 43-44, *Applicants' claim 6*), and
    - x is determined by oxidization states (col. 4 lines 12-37, *Applicants' claim 6*).

2. loading a palladium compound on the W_aZrO_y compound obtained in step 1 to obtain a catalyst for the production of an oxygen-containing compound (col. 7 lines 46-54, *Applicants' claim 6*).

Kresge et al. differs from the instant invention in that there is no reference to using the catalyst in a process for producing an oxygen-containing compound by reacting an olefin and oxygen. However, the preamble of claim 1 is not relevant to patentability. If the body of the claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See MPEP 2111.02 [R-3] II.

Kresge et al. differ from the instant invention in that the amount of palladium supported on the tungsten-zirconia support overlaps and or lies within the range of the instant invention.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have selected** *an amount of palladium to be supported that fell in the range of the instant invention*, as per Applicant's claim 2, **because** a *prima facie* case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed

range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5].

Kresge et al. differ from the instant invention in that the value for a overlaps and or lies within the range of the instant invention.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have selected** *the proper subscript a as per the instant invention*, as per Applicant's claim 2, **because** Ohtsuka discloses a catalyst with the same formula and a *prima facie* case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5]. Furthermore, "[t]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP 2112 [R-3] I.

Kresge et al. differ from the instant invention in that the heat-treating temperature overlaps and or lies within the range of the instant invention.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have selected** *a heat-treating temperature as per the instant invention*, as per Applicant's claim 7, **because** a *prima facie* case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5].

iii. Claims 1, 2-5, 8 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Suzuki et al. (EP 0 620 205 A1).

Suzuki et al. disclose a catalyst represented by the formula Pd/W_aZrO_x, wherein:

- Pd is a palladium-containing compound, which is present in an amount of 0.001-15 parts (p. 3 lines 48-49, *Applicants' claim 2*),
- a, a W/Zr molar ratio, is 0.01-5.0 (p. 2 lines 49-56, p. 3 lines 3-7, p. 4 lines 10-14, *Applicants' claim 2*), and
- x is determined by oxidization states.

The catalyst is used in a process for preparing an oxygen-containing compound such as acetic acid by reacting an olefin such as ethylene and oxygen in the gas phase in the presence of the catalyst (p. 2, lines 49-51, p. 5 lines 6-16, *Applicants' claims 1, 3-5, 8 and 9*).

Suzuki et al. differ from the instant invention in that the formula Pd/W_aZrO_x is not specifically disclosed.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have selected** *the necessary elements W, Zr, and Pd from the options provided by Suzuki et al. in order to produce the catalyst of the instant invention*, as per Applicant's claim 1, **because** a generic chemical formula will anticipate a claimed species covered by the formula when the species can be "at once envisaged" from the formula. If one of ordinary skill in the art is able to "at once envisage" the specific compound within the generic chemical formula, the compound is anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).

Suzuki et al. differ from the instant invention in that the amount of palladium supported on the tungsten-zirconia support overlaps and or lies within the range of the instant invention.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have selected** *an amount of palladium to be supported that fell in the range of the instant invention*, as per Applicant's claim 2, **because** a *prima facie* case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315

F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5].

Suzuki et al. differ from the instant invention in that the value for a overlaps and or lies within the range of the instant invention.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have chosen** *an appropriate value for x as per the oxidation states of W, Zr, and Pd*, as per Applicant's claim 1, **because** "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP 2112 [R-3] I

Suzuki et al. differ from the instant invention in that the fact that x is determined by the oxidation states of W, Zr, and Pd is not explicitly disclosed.

It would have obvious to one of ordinary skill in the art at the time of the invention **to have chosen** *an appropriate value for x as per the oxidation states of W, Zr, and Pd*, as per Applicant's claim 1, **because** "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP 2112 [R-3] I.

Suzuki et al. differ from the instant invention in that propylene for the production of acetone, propionaldehyde, propionic acid and acetic acid and 1-butene, cis-2-butene,

and trans-2-butene for the production of methyl ethyl ketone, n-butyaldehyde, butyric acid, propionaldehyde, propionic acid, acetaldehyde and acetic acid are not recited as possible olefins.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have selected** *propylene, 1-butene, cis-2-butene, or trans-2-butene as possible olefins*, as per Applicant's claims 4 and 5, **because** they are all olefins, the ultimate goal is the production of acetic acid, and "a generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345 (CCPA 1960). See MPEP 2131.02 [R-6].

Conclusion

Claims 1-9 have been rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SERENA L. HANOR whose telephone number is (571)270-3593. The examiner can normally be reached on Monday - Thursday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SLH

/Timothy C Vanoy/
Primary Examiner, Art Unit 1793